

including that presently claimed, in order to produce ink that will not clog the printer nozzles, and thereby arrive at the claimed invention.”

This rejection is respectfully traversed. The purpose of the colorant particles of Ishii et al. is to agglomerate in an electrostatic inkjet system, whereas the purpose of the present colorant particles is to avoid agglomeration in a thermal inkjet recording system, as supported by the experimental evidence in Table 2 of the present application. In contrast, see column 6, lines 46-58 of Ishii et al.:

...The agglomerates of the colored particles are formed at the jetting position by impressing a strong electrical field on the oil ink at the jetting position, and the agglomerates are ejected from the jetting position by electrostatic means. The colored particles are thus ejected as highly concentrated agglomerates....

The Examiner refers to column 21 of Ishii et al., wherein it is stated as follows:

...the colored particles may be contained in resin particles for dispersion for the purpose of improving fixing property. When the colored particles are contained in resin particles for dispersion, pigments are generally covered with the resin material of the resin particles for dispersion to make resin covered particles.... [Emphasis added]

Thus, Ishii et al. teach encapsulating each pigment particle with already formed resin. In contrast, the present invention is directed to colorant particles which have a pigment phase and a polymer phase, the polymer phase being formed in situ in the presence of the colorant (claim 1). This in situ formation is further detailed in claims 2 and 15.

Furthermore the colorant particles are less than 80 nm (claim 12), supported by numerous examples of colorant particles having a particle size of 41 to 45 nm. Although the Examiner states that the polymer particles of Ishii et al. are 100-1500 nm, the Examples are 230 nm, in which the polymer particles did not contain any pigment or other colorant. The Examiner states that one of ordinary skill would “recognize that the mean particle size of the colored polymer particles must be small enough so that the

colored polymer particles do not flocculate or aggregate and cause clogging of printer nozzles.” However, although the skilled artisan might recognize that more fully based on Applicants’ own disclosure, the skilled artisan would recognize that aggregation of the particles would be desirable based on the disclosure of Ishii et al.

The Examiner concedes that there is no disclosure in Ishii et al. of process as required in present claim 2 or present claim 15. The Examiner states “If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.”

Applicants remind the Examiner that the present product is different based on its method of preparation, which is the key aspect of the invention, resulting in superior stability as shown in Table 2. It is respectfully submitted that the Examiner improperly ignores explicit and important limitations in the claims, based on an improper reading of the case law on product-by-process claims. If the Examiner maintains her refusal to give weight to important product-by-process claim limitations, then Applicants intend to appeal on the record.

In view thereof, it follows that the subject matter of the claims would not have been obvious over Ishii et al. at the time the invention was made.

Claim 4 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Ishii et al. and further in view of Adams et al.

The rejection is traversed for the reasons stated above with respect to Ishii et al. The particular pigments including Pigment Red 122, Pigment Blue 15, or Pigment Black 7 are secondary aspects of the invention and are not relied on for patentability of the independent claims.

In view thereof, it follows that the subject matter of the claims would not have been obvious over Ishii et al. and further in view of Adams et al. at the time the invention was made.

Claim 11 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Ishii et al. and further in view of Miyabayashi et al. or Cooke et al. It is the conclusion of the Examiner that it “...would have been

obvious to one of ordinary skill in the art to use crosslinked polymer in the composite colorant polymer particles of Ishii et al. in order to produce ink which is stably ejected from printer, or alternatively, to produce stable ink, i.e. no loss of the polymer coating from the pigment during blending of the ink, and thereby arrive at the claimed invention.”


The rejection is traversed for the reasons stated above with respect to Ishii et al. The crosslinking is a secondary aspect of the invention and refers to a feature not recited in the independent claims.

In view thereof, it follows that the subject matter of the claims would not have been obvious over Ishii et al. and further in view of Miyabayashi et al. or Cooke et al. at the time the invention was made.

In view of the foregoing remarks and amendment, the claims are believed allowable and such favorable action is courteously solicited.

Should the Examiner consider that additional amendments are necessary to place the application in condition for allowance, the favor is requested of a telephone call to the undersigned counsel for the purpose of discussing such amendments.

Respectfully submitted,



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